ENGLISH FOUNDATION NOTES FOR LRFD 2012 LETTINGS REVISED 9-18-2012

(Choices/optional note modifications are in parentheses.)

L 001 FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 001 *** REVISED GEOTECH 4/11 ***

L 002 DRILLED PIERS AT BENT NO. ___ ARE DESIGNED FOR A FACTORED RESISTANCE OF ____ TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF ____ TSF.
H 002 *** (LRFD) GEOTECH 9/08 ***

L 003 PERMANENT STEEL CASINGS MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. ___. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION _____ FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.
H 003 *** REVISED GEOTECH 3/10 ***

L 004 PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. ___. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION _____ FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
H 004 *** REVISED GEOTECH 3/10 ***

L 005 INSTALL PERMANENT STEEL CASINGS AT BENT NO. ___ BY VIBRATING, SCREWING OR DRIVING PERMANENT CASINGS BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION _____ FT.
H 005 *** REVISED GEOTECH 3/10 ***

L 006 DO NOT USE MULTIPLE TEMPORARY STEEL CASINGS IN A TELESCOPED ARRANGEMENT TO STABILIZE DRILLED PIER EXCAVATIONS AT BENT NO. ___.
H 006 *** REVISED GEOTECH 3/10 ***

L 007 INSTALL DRILLED PIERS AT BENT NO. ___ TO A TIP ELEVATION NO HIGHER THAN _____ FT AND WITH THE REQUIRED TIP RESISTANCE.
H 007 *** (LRFD) REVISED GEOTECH 6/12 ***

L 008 INSTALL DRILLED PIERS AT BENT NO. ___ TO A TIP ELEVATION NO HIGHER THAN _____ FT AND WITH THE REQUIRED TIP RESISTANCE AND PENETRATION OF AT LEAST _____ FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
H 008 *** (LRFD) REVISED GEOTECH 6/12 ***

L 009 THE SCOUR CRITICAL ELEVATION FOR BENT NO. ___ IS ELEVATION _____ FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
H 009 *** REVISED GEOTECH 7/06 ***

L 010 SPT IS REQUIRED FOR DRILLED PIERS AT BENT NO. ___. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 010 *** REVISED GEOTECH 4/11 ***

L 011 SPT MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SPT. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 011 *** REVISED GEOTECH 4/11 ***

L 012 DO NOT DEWATER DRILLED PIER EXCAVATIONS AT BENT NO. ___. CLEAN THE BOTTOM OF EXCAVATIONS WITH A SUBMERSIBLE PUMP OR AN AIRLIFT. WET PLACEMENT OF CONCRETE IS REQUIRED.
H 012 *** REVISED GEOTECH 11/07 ***

L 013 DO NOT USE SLURRY CONSTRUCTION FOR DRILLED PIERS AT BENT NO. ___.
H 013 *** REVISED GEOTECH 7/06 ***

L 014 SLURRY CONSTRUCTION IS REQUIRED FOR DRILLED PIERS AT BENT NO. ___.
H 014 *** REVISED GEOTECH 11/07 ***

L 015 DO NOT USE POLYMER SLURRY FOR DRILLED PIERS AT BENT NO. ___.
H 015 *** REVISED GEOTECH 7/06 ***

L 016 POLYMER SLURRY IS REQUIRED FOR DRILLED PIERS AT BENT NO. ___.
H 016 *** REVISED GEOTECH 11/07 ***

L 017 SID INSPECTIONS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. ___. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 017 *** REVISED GEOTECH 4/11 ***

L 018 SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 018 *** REVISED GEOTECH 4/11 ***

L 019 CSL TUBES AND TESTING ARE REQUIRED FOR DRILLED PIERS AT BENT NO. ___. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 019 *** REVISED GEOTECH 4/11 ***

L 020 CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 020 *** REVISED GEOTECH 4/11 ***

L 021 PIT MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR PIT. FOR PILE INTEGRITY TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
H 021 *** REVISED GEOTECH 6/12 ***

L 022 DRILLED PIER EXCAVATIONS AT BENT NO. ___ WILL EXTEND INTO MATERIAL THAT DETERIORATES WHEN EXPOSED TO THE ELEMENTS. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE AND PLACE CONCRETE IMMEDIATELY AFTER THE EXCAVATION IS COMPLETED.

H 022 *** (LRFD) GEOTECH 9/08 ***

END BENT WAITING PERIODS

L 023 OBSERVE A ___ MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT OF FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT NO.___.
H 023 *** REVISED GEOTECH 11/07 ***

L 024 OBSERVE A ___ MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NO. ___.
H 024 *** REVISED GEOTECH 11/07 ***

L 025 OBSERVE A ___ MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO THE BOTTOM OF CAP ELEVATION BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT NO. ___.
H 025 *** REVISED GEOTECH 11/07 ***

PILES

L 026 FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 026 *** (LRFD) REVISED GEOTECH 4/11 ***

L 027 AT THE CONTRACTOR'S OPTION, SUBSTITUTE STEEL PILES FOR PRESTRESSED CONCRETE PILES AT BENT NO. ___ WITH THE FOLLOWING CONDITIONS:
H 027

L 028 1) SUBMIT STEEL PILE TYPE AND SIZE FOR APPROVAL.
H 028

L 029 2) SUBSTITUTE GALVANIZED STEEL PILES IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS FOR INTERIOR BENT PRESTRESSED CONCRETE PILES WITHOUT CALCIUM NITRITE CORROSION INHIBITOR.
H 029

L 030 3) SUBSTITUTE METALLIZED STEEL PILES WITH AN 8 MIL THICK 1350 ALUMINUM (W-AL-1350) THERMAL SPRAYED COATING AND A 0.5 MIL THICK SEAL COAT IN ACCORDANCE WITH THE THERMAL SPRAYED COATINGS (METALLIZATION) PROVISION FOR ALL PRESTRESSED CONCRETE PILES WITH CALCIUM NITRITE CORROSION INHIBITOR.
H 030

L 031 4) REGARDLESS OF THE TYPE, SIZE OR QUANTITY OF STEEL PILES SUBSTITUTED, PAYMENT FOR STEEL PILES WILL BE MADE FOR THE PLAN QUANTITY OF PRESTRESSED CONCRETE PILES AT THE CONTRACT UNIT PRICE FOR THE PRESTRESSED CONCRETE PILES. NO ADDITIONAL PAYMENT WILL BE MADE FOR STEEL PILE QUANTITIES IN EXCESS OF THE PLAN QUANTITY OF PRESTRESSED CONCRETE PILES REPLACED.
H 031

L 032 5) NO ADDITIONAL PAYMENT WILL BE MADE FOR CORROSION PROTECTION (GALVANIZING OR METALLIZING), STEEL PILE POINTS OR PIPE PILE PLATES. THESE ITEMS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE PRESTRESSED CONCRETE PILES.
H 032 *** (LRFD) REVISED GEOTECH 4/11 ***

L 033 PILES AT BENT NO. ___ ARE DESIGNED FOR A FACTORED RESISTANCE OF ____ TONS PER PILE.
H 033 *** (LRFD) REVISED GEOTECH 3/10 ***

L 034 DRIVE PILES AT BENT NO. ___ TO A REQUIRED DRIVING RESISTANCE OF ____ TONS PER PILE.
H 034 *** (LRFD) GEOTECH 3/10 ***

L 035 DRIVE PILES AT BENT NO. ___ TO A REQUIRED DRIVING RESISTANCE OF ____ TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAG OR SCOUR.
H 035 *** (LRFD) REVISED GEOTECH 3/10 ***

L 036 INSTALL PILES AT BENT NO. ___ TO A TIP ELEVATION NO HIGHER THAN _____ FT.
H 036 *** REVISED GEOTECH 11/07 ***

L 037 INSTALL PRESTRESSED CONCRETE AND STEEL H-PILE SECTIONS OF COMPOSITE PILES AT BENT NO. ___ TO TIP ELEVATIONS NO HIGHER THAN _____ FT AND _____ FT, RESPECTIVELY.
H 037 *** (LRFD) REVISED GEOTECH 4/11 ***

L 038 STEEL H-PILE POINTS ARE REQUIRED FOR STEEL H-PILES AT BENT NO. ___. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 038 *** (LRFD) REVISED GEOTECH 4/11 ***

L 039 STEEL PIPE PILE (CUTTING SHOES or CONICAL POINTS) ARE REQUIRED FOR STEEL PIPE PILES AT BENT NO. ___. (USE "INSIDE FIT" PIPE PILE CUTTING SHOES, I.E., CUTTING SHOES WITH AN OUTSIDE DIAMETER EQUAL TO THE PIPE PILE DIAMETER.) FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 039 *** (LRFD) REVISED GEOTECH 6/12 ***

L 040 STEEL PILE TIPS ARE REQUIRED FOR PRESTRESSED CONCRETE PILES AT BENT NO. ___. FOR STEEL PILE TIPS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 040 *** (LRFD) REVISED GEOTECH 4/11 ***

L 041 THE SCOUR CRITICAL ELEVATION FOR BENT NO. ___ IS ELEVATION _____ FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
H 041 *** REVISED GEOTECH 7/06 ***

L 042 IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF ____ FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT BENT NO. ___. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN

ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

H 042 *** (LRFD) REVISED GEOTECH 4/11 ***

L 043 DO NOT BEGIN WORK AT BENT NO. ___ UNTIL FILL HAS BEEN PLACED.

H 043 *** REVISED GEOTECH 6/05 ***

L 044 THE CONTRACTOR MAY CHOOSE TO CONSTRUCT BENT NO. ___ BEFORE PLACING FILL. PLACE FILL IN ACCORDANCE WITH ARTICLE 410-8 OF THE STANDARD SPECIFICATIONS.

H 044 *** REVISED GEOTECH 11/07 ***

L 045 THE QUANTITY SHOWN FOR FOUNDATION EXCAVATION IS BASED ON PLACING FILL BEFORE CONSTRUCTING BENT NO. ___. IF THE CONTRACTOR CHOOSES TO CONSTRUCT THE BENT(S) BEFORE PLACING FILL, THE QUANTITY FOR FOUNDATION EXCAVATION WILL BE MEASURED FROM THE GROUND LINE AT THE TIME OF BENT CONSTRUCTION.

H 045 *** REVISED GEOTECH 11/07 ***

L 046 TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS (AND FOR PILE DRIVING CRITERIA, SEE PILE DRIVING CRITERIA PROVISION).

H 046 *** (LRFD) REVISED GEOTECH 6/12 ***

L 047 TESTING THE (FIRST) (PRODUCTION or TEST) PILE(S) WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING IS REQUIRED. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS (AND FOR PILE DRIVING CRITERIA, SEE PILE DRIVING CRITERIA PROVISION).

H 047 *** (LRFD) REVISED GEOTECH 6/12 ***

L 048 PILE EXCAVATION IS REQUIRED TO INSTALL PILES AT BENT NO. ___. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION _____ FT. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

H 048 *** (LRFD) REVISED GEOTECH 4/11 ***

L 049 CONCRETE OR GROUT IS REQUIRED TO FILL HOLES FOR PILE EXCAVATION AT BENT NO. ___.

H 049 *** (LRFD) REVISED GEOTECH 4/11 ***

L 050 PIPE PILE PLATES ARE REQUIRED FOR STEEL PIPE PILES AT BENT NO. ___. USE PIPE PILE PLATES WITH A DIAMETER EQUAL TO THE PIPE PILE DIAMETER. FOR STEEL PIPE PILE PLATES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

H 050 *** (LRFD) REVISED GEOTECH 4/11 ***

L 051 PIPE PILE PLATES MAY BE REQUIRED FOR STEEL PIPE PILES AT BENT NO. ___. THE ENGINEER WILL DETERMINE THE NEED FOR PIPE PILES PLATES AFTER DRIVING TEST PILES OR A FEW INITIAL PRODUCTION PILES. USE PIPE PILE PLATES WITH A DIAMETER EQUAL TO THE PIPE PILE DIAMETER. FOR STEEL PIPE PILE PLATES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

H 051 *** (LRFD) REVISED GEOTECH 4/11 ***

L 052 PIPE PILE PLATES ARE NOT REQUIRED FOR STEEL PIPE PILES AT BENT NO. ___.
H 052 *** REVISED GEOTECH 3/10 ***

L 053 PREDRILLING FOR PILES IS REQUIRED AT BENT NO. ___. PREDRILL PILE LOCATIONS TO ELEVATION _____ FT WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF ___". FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 053 *** (LRFD) REVISED GEOTECH 4/11 ***

L 054 IF NECESSARY, PREDRILL PILE LOCATIONS AT BENT NO. ___ TO ELEVATION _____ FT WITH EQUIPMENT THAT WILL RESULT IN A MAXIMUM PREDRILLING DIAMETER OF ___". FOR PREDRILLING FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
H 054 *** (LRFD) REVISED GEOTECH 4/11 ***

L 055 SPUDDING MAY BE USED INSTEAD OF PREDRILLING AT BENT NO. ___.
H 055 *** (LRFD) REVISED GEOTECH 4/11 ***

L 056 TEMPORARY STEEL CASINGS ARE REQUIRED FOR PREDRILLING (AND SPUDDING) AT BENT NO. ___.
H 056 *** (LRFD) GEOTECH 3/10 ***

FOOTING ON PILES

L 057 THE SCOUR CRITICAL ELEVATION FOR BENT NO. ___ IS ELEVATION _____ FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
H 057 *** REVISED GEOTECH 7/06 ***

L 058 PIER SCOUR PROTECTION IS REQUIRED FOR FOOTINGS AT BENT NO. ___. DO NOT PLACE RIP RAP ABOVE THE STREAM BED.
H 058 *** REVISED GEOTECH 7/06 ***

SPREAD FOOTINGS

L 059 THE SCOUR CRITICAL ELEVATION FOR BENT NO. ___ IS THE BOTTOM OF FOOTING ELEVATION. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
H 059 *** REVISED GEOTECH 7/06 ***

L 060 THE SPREAD FOOTINGS AT BENT NO. ___ ARE DESIGNED FOR A FACTORED RESISTANCE OF ____ TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF ____ TSF JUST BEFORE PLACING CONCRETE.
H 060 *** (LRFD) GEOTECH 9/08 ***

L 061 TO PROVIDE PROTECTION FROM POSSIBLE SCOUR, DO NOT CONSTRUCT SPREAD FOOTINGS AT BENT NO. ___ AT AN ELEVATION HIGHER THAN SHOWN ON THE PLANS.
H 061 *** REVISED GEOTECH 7/06 ***

L 062 (KEY or CARRY IN) SPREAD FOOTINGS AT BENT NO. ___ AT LEAST 12" INTO ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.

H 062 *** REVISED GEOTECH 11/07 ***

L 063 PIER SCOUR PROTECTION IS REQUIRED FOR SPREAD FOOTINGS AT BENT NO. ___. DO NOT PLACE RIP RAP ABOVE THE STREAM BED.
H 063 *** REVISED GEOTECH 7/06 **

L 064 FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE ARTICLE 410-9 OF THE STANDARD SPECIFICATIONS.
H 064 *** REVISED GEOTECH 4/11 ***

L 065 FOOTING EXCAVATIONS AT BENT NO. ___ WILL EXTEND INTO MATERIAL THAT DETERIORATES WHEN EXPOSED TO THE ELEMENTS. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE AND PLACE CONCRETE IMMEDIATELY AFTER THE EXCAVATION IS COMPLETED.
H 065 *** (LRFD) GEOTECH 9/08 ***

CULVERT FOOTINGS

L 066 CONSTRUCT THE REINFORCED CONCRETE BOX CULVERT AT STATION _____ WITH ____" OF CAMBER TO ACCOUNT FOR ANTICIPATED SETTLEMENT.
H 066 *** REVISED GEOTECH 11/07 ***

L 067 BACKFILL WITH SELECT MATERIAL, CLASS _____ MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS. (Geotechnical Engineering Unit will determine select material class.)
H 067 *** REVISED GEOTECH 11/07 ***

L 068 (KEY or CARRY IN) FOOTINGS FOR THE REINFORCED BOX CULVERT AT STATION _____ AT LEAST 12" INTO ROCK WITH A MINIMUM THICKNESS AS SHOWN ON THE PLANS.
H 068 *** REVISED GEOTECH 11/07 ***